

Engineering Referral Response

Application Number:	REV2019/0036
To:	Nick England
Land to be developed (Address):	Lot 29 DP 17125 , 14 Playfair Road NORTH CURL CURL NSW 2099

Reasons for referral

This application seeks consent for the following:

- New Dwellings or
- Applications that require OSD where additional impervious area exceeds 50m² or
- Alterations to existing or new driveways or
- Where proposals affect or are adjacent to Council drainage infrastructure incl. watercourses and drainage channels or
- Torrens, Stratum and Community Title Subdivisions or
- All new Commercial and Industrial and RFB Development with the exception of signage or
- Works/uses in flood affected areas

And as such, Council's development engineers are required to consider the likely impacts on drainage regimes.

Officer comments

Reference is made to the Overland Flow Impact Report , Job No. 170811, revision D and Request for information at 14 Playfair Road, North Curl Curl, Job no. 170811, dated 6 June 2019 prepared by RTS Civil Consulting Engineers Pty Ltd and the architectural plans by Classic Country Cottages, Job no. CC151, revision B.

Reference is also made to the stormwater drainage plans approved under Council's S68A2016/0024 application (see trim no. 2017/081499 and 2017/077388).

Development Engineers have reviewed the above documentations and cannot support the proposal due to the following reasons:

Council stormwater pipeline

1. Cross section 1 and Eastern elevation of the architectural plans do not accurately depict the existing structures on the adjoining property at 12 Playfair Road. Insufficient details are submitted to show how the construction of the pipeline and treated pine retaining wall will impact the stability/structural integrity of the adjoining structures, and how the proposal will ensure future access is achieved to Council's pipeline for maintenance purposes. Also no retaining structures are to allowed to be constructed directly over Council's pipeline.

2. The Overland Flow Impact Report states the 'proposed new 525mm DIA pipe will need to be slightly lowered to accommodate overland flow path levels.' Insufficient details are submitted to detail the extent of the proposal.

Overland flow

3. The applicant proposes to divert overland flows along the northern side then the western side of the new dwelling at 14 Playfair Road. Overland flow paths are then to be directed to Playfair Road between the new dwelling at 14 Playfair Road and existing dwelling at 16 Playfair Road. The Post-Development 1% AEP Flood Depth plan indicates that proposed diversion of overland flows will result in a depth of flood water of 1 metre or more between these dwellings. Insufficient details are submitted to demonstrate how the proposed development and adjoining properties are adequately protected from stormwater inundation.

Not supported for approval due to lack of information to address:

- Stormwater drainage for the development in accordance with clause C4 Stormwater of the DCP
- Council's Stormwater pipeline clearance for the development in accordance with clause C6 Building over or adjacent to Constructed Council Drainage Easements

Note:

Vehicle access to proposed garage is satisfactory using Council's standard normal profile.

Comments based on Additional Information

The Applicant has provided his response on 28.08.2019 to Engineering issues raised on 23.07.2019 in regards to storm-water pipeline and overland flow. The submitted documentation has been peer reviewed from two engineers and acting manager of Development Engineering on 27.09.2019. We have unanimously agreed to accept the proposed concept design and to condition detail design of the proposed Council pipeline redirection.

Referral Body Recommendation

Recommended for approval, subject to conditions

Refusal comments

Recommended Engineering Conditions:

FEES / CHARGES / CONTRIBUTIONS

Construction, Excavation and Associated Works Bond (Drainage)

A Bond of \$65,000.00 as security against any damage or failure to complete the construction of approved Stormwater drainage works as part of this consent.

Reason: Protection of Council's Infrastructure

Construction, Excavation and Associated Works Bond (Maintenance for civil works)

The developer/applicant must lodge with Council a Maintenance Bond of \$10,000.00 for the works

completed in accordance with the approved plans. The Maintenance Bond will only be refunded on completion of the six month Maintenance Period, if work has been completed in accordance with the approved plans and to the satisfaction of Council. The maintenance bond is to be paid prior to Council issuing practical completion and may be exchanged for the works bond.

Reason: To ensure adequate protection of Council infrastructure

CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF THE CONSTRUCTION CERTIFICATE

On-site Stormwater Detention

An On-site Stormwater Detention system must be designed and constructed in accordance with Northern Beaches Council's current Warringah Water Management Policy PL-850 and generally in accordance with the concept drainage plans prepared by Classic Country Cottages, drawing number CC151/13/Rev D, dated 26/08/19.

Detailed drainage plans are to be prepared by a qualified experienced practicing Civil Engineer, with Corporate membership of the Institute of Engineers Australia (M.I.E.) or who is eligible to become a Corporate member and has appropriate experience and competence in the related field.

The drainage plans must address the following:

- i) The design is to in accordance with Council's Streamlined Method
- ii) The outlet pipe and overflow from the detention tank are to be connected to Council's drainage pit traversing the site

Detailed drainage plans, including engineering certification confirming the above requirements have been satisfied and complying with Council's requirements, are to be submitted to the Certifying Authority for approval prior to the issue of the Construction Certificate.

Reason: To ensure appropriate provision for the disposal of storm water and storm water management arising from the development.

Structural Adequacy and Excavation Work

Excavation work is to ensure the stability of the soil material of adjoining properties, the protection of adjoining buildings, services, structures and / or public infrastructure from damage using underpinning, shoring, retaining walls and support where required. All retaining walls are to be structurally adequate for the intended purpose, designed and certified by a Structural Engineer, except where site conditions permit the following:

(a) maximum height of 900mm above or below ground level and at least 900mm from any property boundary, and

(b) Comply with AS3700, AS3600 and AS1170 and timber walls with AS1720 and AS1170.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: To provide public and private safety.

Shoring of Adjoining Property

Should the proposal require shoring to support an adjoining property or Council land, owner's consent for the encroachment onto the affected property owner shall be provided with the engineering drawings.

Council approval is required if temporary ground anchors are to be used within Council land. A

Temporary Ground Anchors (Road Reserve) Application is to be submitted with Council for assessment and approval subject to Council's Fees and Charges. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate

Reason: To ensure that owners consent is obtained for ancillary works, and to ensure the protection of adjoining properties and Council land.

Vehicle Crossings Application

A Driveway Levels and Formwork Inspections Application shall be made with Council subject to the payment of the fee in accordance with Council's Fees and Charges. The fee includes all Council inspections relating to the driveway construction and must be paid.

Approval of the application by Council is to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To facilitate suitable vehicular access to private property.

Stormwater Drainage Application

A Storm-water drainage application under Section 68 of the Local Government Act 1993 is to be submitted to Council for approval. The submission is to include four (4) copies of Civil Engineering plans for the design of the proposed redirection of Council stormwater line traversing the lot 29 in DP17125, which are to be generally in accordance with the civil design approved with the Application S68A2016/0024 on 23 March 2017, using the recommendations of the original flood study design prepared by RTS consultants Job 170811, Revision D dated 8 November 2018, and Council's specification for engineering works - AUS-SPEC #1. The form can be found on Council's website using the following link.

<https://files.northernbeaches.nsw.gov.au/sites/default/files/documents/pdf-forms/stormwater-drainage-approval/4022-stormwater-drainage-approval.pdf>

The detailed design plans shall be certified as compliant with the above requirements and shall include the following information:

1. Detail storm-water drainage longitudinal section
2. Detail cross sections at every new and reconstructed storm-water pit
3. Cross sections over the redirected pipeline demonstrating required clearance from any future structure of the house
4. Detail of every new connection to Council pipeline
5. Standard details of all proposed storm-water drainage structure
6. The width and the alignment of the proposed easement over the redirected Council pipeline
7. Post development 1% AEP Flood Depth plan shall clearly indicate depths of flood water within the proposed diversion of overland flow
8. The height of retaining wall constructed to contain the overland flow shall be clearly indicated on the plans and shall be achieve a minimum of 500 mm freeboard in accordance with Council requirements
9. Indication that post development overland flow path for 1% AEP is to be conveyed wholly within the property
10. Detail of proposed OSD and connection to redirected storm-water pipeline
11. Any proposed construction over the future easement shall be designed in accordance Council Water Management Policy.
12. Construction details are to be designed in accordance with any recommendations by the Geotechnical Engineer.

13. A structural engineering report and associated design is to be prepared in relation to the constructability and stability of the existing and proposed structures along the northern boundary.

The fee associated with the assessment and approval of the application is to be in accordance with Council's Fees and Charges.

Details demonstrating compliance and approval issued from Council shall be submitted to the Certifying Authority prior to the issue of any Construction Certificate.

Reason: To ensure appropriate provision for disposal and Maintenance Stormwater management arising from the development.

•

CONDITIONS TO BE COMPLIED WITH DURING DEMOLITION AND BUILDING WORK

Civil Works Supervision

All civil works approved in the Construction Certificate are to be supervised by an appropriately qualified and practising Civil Engineer. Details demonstrating compliance are to be submitted to the Principal Certifying Authority

Reason: To ensure compliance of civil works with Council's specification for engineering works.

Notification of Inspections for Stormwater Drainage Diversion Works

Council's Development Engineer is to be given 48 hours notice when the works reach the following stages:

- (a) Installation of Silt and Sediment control devices
- (b) Prior to backfilling of pipelines
- (c) Prior to pouring of stormwater junction pits

NOTE: Any inspections carried out by Council do not imply Council approval or acceptance of the work, and do not relieve the developer/applicant from the requirement to provide an engineer's certification. Council approval or acceptance of any stage of the work must be obtained in writing, and will only be issued after completion of the work to the satisfaction of Council and receipt of the required certification.

Reason: To ensure new Council infrastructure is constructed to Council's requirements.

Vehicle Crossings

The provision of one vehicle crossing 3 metres wide in accordance with Northern Beaches Council Drawing No A4-3330/2 NH and specifications. An Authorised Vehicle Crossing Contractor shall construct the vehicle crossing and associated works within the road reserve in plain concrete. All redundant laybacks and crossings are to be restored to footpath/grass. Prior to the pouring of concrete, the vehicle crossing is to be inspected by Council and a satisfactory "Vehicle Crossing Inspection" card issued.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority.

Reason: To facilitate suitable vehicular access to private property.

Maintenance of Road Reserve

The public footways and roadways adjacent to the site shall be maintained in a safe condition at all times during the course of the work.

Reason: Public Safety.

Protection of Adjoining Property - Excavation

Where excavations extend below the level of the base of the footings of a building on an adjoining allotment of land, the person causing the excavation must preserve and protect the building from damage and, if necessary, underpin and support the adjoining building in an approved manner.

Reason: To ensure private and public safety

**CONDITIONS WHICH MUST BE COMPLIED WITH PRIOR TO THE ISSUE OF THE
OCCUPATION CERTIFICATE****Authorisation of Legal Documentation Required for Onsite Detention**

The original completed request forms (NSW Land Registry standard forms 13PC and/or 13RPA) must be submitted to Council, with a copy of the Works-as-Executed plan (details overdrawn on a copy of the approved drainage plan) and hydraulic engineers certification. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any interim / final Occupation Certificate.

Reason: To create encumbrances on the land.

Registration of Encumbrances for On-site Stormwater Detention

A copy of the certificate of title demonstrating the creation of the positive covenant and restriction for on-site storm water detention as to user is to be submitted. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any interim / final Occupation Certificate.

Reason: To identify encumbrances on land.

On-Site Stormwater Detention Compliance Certification

Upon completion of the on-site stormwater detention (OSD) system, certification from a consulting engineer and a "work as executed" (WAE) drawing certified by a registered surveyor and overdrawn in red on a copy of the approved OSD system plans are to be provided to Council.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any interim / final Occupation Certificate.

Reason: To ensure stormwater disposal is constructed to Council's satisfaction.

Certification of Structures Located Adjacent to Council Pipeline or Council Easement

All structures are to be located clear of any Council pipeline or easement. Footings of any structure adjacent to an easement or pipeline are to be designed in accordance with Council's Water Management Policy; (in particular Section 6 - Building Over or Adjacent to Constructed Council Drainage Systems and Easements Technical Specification). Structural certification prepared by a

suitably qualified Structural Engineer demonstrating compliance are to be submitted to the Principal Certifying Authority for approval prior to the issue of the Occupation Certificate.

Reason: Protection of Council's Infrastructure.

Positive Covenant and Restriction as to User for On-site Stormwater Detention

A positive covenant shall be created on the title of the land requiring the proprietor of the land to maintain the on-site stormwater detention structure in accordance with the standard requirements of Council. The terms of the positive covenant are to be prepared to Council's standard requirements at the applicant's expense and endorsed by Northern Beaches Council's delegate prior to lodgement with NSW Land Registry Services. Northern Beaches Council shall be nominated as the party to release, vary or modify such covenant.

A restriction as to user shall be created on the title over the on-site stormwater detention system, restricting any alteration to the levels and/or any construction on the land. The terms of such restriction are to be prepared to Council's standard requirements at the applicant's expense and endorsed by Council prior to lodgement with NSW Land Registry Services. Northern Beaches Council shall be nominated as the party to release, vary or modify such restriction.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any interim / final Occupation Certificate.

Reason: To ensure the on-site detention and/or pump system is maintained to an appropriate operational standard.

Drainage Easement

An easement to drain water 1.8 metres wide along the northern boundary and 3 metres wide between the northern boundary and the southern boundary of the site, shall be created in favour of Council over the newly constructed pipeline traversing the site. The easements are to be detailed on a plan of easement and lodged with Council for approval. The plan is to be registered with Land Registry Services.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Occupation Certificate.

Reason: To identify drainage easements in favour of Council on the property title.

Certification of Drainage Works and Works as Executed Data

A suitably qualified Civil Engineer shall certify that the completed works have been constructed in accordance with this consent and the approved Construction Certificate plans. Works as Executed data certified by a registered surveyor prepared in accordance with Council's 'Guideline for preparing Works as Executed data for Council Stormwater Assets' shall be submitted to the Council for approval prior to the issue of the Occupation Certificate.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Occupation Certificate.

Reason: To ensure compliance of drainage works with Council's specification for engineering works.